EXHIBIT D

Insituform Technologies, Inc.

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August 22, 2003

Via Fax
508-559-6432

Jon D'Allessandro
President
D'Allessandro Corp.
41 Ledin Drive
P.O. Box 245
Avon, MA 02322

Subj: **Proposal to Address Liner Finish on Shots 1 and 3:** East Boston Branch Sewer Rehabilitation, MWRA Contract No. 6840

Dear Mr. D'Allessandro:

Following our meetings and discussions with the Owner and Engineer, we're providing herein the requested proposal to improve the appearance of the CIPP liners installed from 3+80 to 7+00 to10+23 and 34+20 to 37+19 to 40+26. The attached letter from the ITI Product Engineer (Enclosure 1) provides the comprehensive background and supporting detail that we anticipate will answer the questions related to the proposed procedure (Enclosure 2).

As noted in the meeting on Monday, please understand that additional "wrinkles" and/or "fins" should be expected in remaining installations on this project. To the extent that host pipe geometry and configuration vary on balance with physical limitations of the CIPP process, some irregularity in the final product is naturally expected as we strive to meet all of the requirements of the specifications and Owner's expectations. Please be assured that we are taking every precaution possible to minimize irregularity of the CIPP surface as installations continue.

We are prepared to begin executing the attached procedure as soon and this weekend. Please let me know how I can help you proceed with an expeditious conclusion to open questions to keep your project on schedule.

Sincerely,

INSITUFORM TECHNOLOGIES, INC.

Thomas Porzio, P.E.
Project Executive

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22 August 2003

Thomas Porzio, P.E.
ITI Project Executive
Area 1
Charlton, MA

Re: MWRA EBBS Contract Number 6840
Wrinkles in CIPP

Dear Tom:

The project's videotapes (STA 3+80 to STA 10+23 and STA 34+20 to STA 40+26) for the brick host sewers and post-video inspection of the Insituform lining were reviewed. The Insituform surface contains random wrinkling that arbitrarily starts and stops along the length of the pipe. These surface anomalies are referred to as "fins". The distinction between folds or wrinkles and fins is the number of layers that are contained within the folded material. CIPP tube thickness is achieved by using multiple layers of needled felt much like plywood is constructed with laminates of wood. Fins are formed of a single layer of coated felt, whereas wrinkles/folds are classically multiple layers. Generally, wrinkles/folds can usually be attributed to a tube that was large relative to the pipe size. Irregularities and changes in the host pipe size are one cause of wrinkles /folds. The observed resulting fins can be a result of reduced pipe size or inconsistencies in the brick circumference or trapping the coated layer in the inverting tube leading edge, known as the "nose" or "inverting face". This can be created when the installing tube rotates along the length of the installation or changes in the shape of the inverting face. This pinches the coated layer trapping a short length of material and creates a fin-like spike that is locked into position and then cured.

Structural Considerations:

Fins are the cured-in-place pipe's inner layer, which is relatively thin (about an 1/8-inch thick) and coated with a polyethylene polymer. These randomly "snake" along the length of the pipe. Fins are more cosmetic in nature since they do not adversely impact the structural performance of the wall. Fins are never designed to be in the CIPP, but when they occur fins offer some degree of a stiffening effect, which only adds to the beam stiffness of the pipe. This is purely arbitrary and random; therefore the stiffening cannot be relied upon in the pipe design. The reduction of the material in the circumference due to the fin creates a slight restriction in the stretching of the material. There is no reduction in the CIPP wall thickness due to the fin and therefore the CIPP

exhibits similar structural performance to a smooth inside surface CIPP, which is more aesthetically acceptable.

Corrosion Resistance:

If the fins are unacceptably tall and are trimmed to comply with the Owner/Engineer's specifications or requests, the exposed surface after the cut should be about a half to ¾-inch tall. Attempting to trim closer to a curved wall surface may cause more damage to adjacent areas. The exposed surface of the CIPP after trimming is the same material that is exposed when service connections are reinstated or when the ends of the CIPP are trimmed within manholes. These areas expose the resin/felt wall to flows and are not impacted by the exposure. This is because the corrosion potential of the resin offers the necessary resistance to the material within the sewer. The felt material is a small volume fraction of the composite. Wicking or capillary action of the polyester felt staple that may be exposed does not create a similar deleterious softening as with exposed non-corrosion resistant fiberglass materials. The E-glass materials that had been used within early fiberglass reinforced pipes created a softening of the wall. Today's fiberglass materials are vastly superior to those previously used. This exposure of the CIPP does not create similar wicking and the CIPP wall integrity is maintained over the design-life of the product.

After an unacceptably tall fin has been trimmed the exposed resin material coating with a protective layer is not recommended. Using protective coatings requires further area preparation (quality control of which is difficult to achieve in a sewer pipe atmosphere) and may not bond well to the CIPP. Delamination of the coatings may cause downstream maintenance issues; therefore, coating these resin-rich areas is not recommended.

Maintenance Actions:

Fins that are oriented along the axial pipe direction will provide no blockage of deposited sewage material. Cross-sectional fins that traverse the direction of flow create a restriction. Fins that cross the invert or travel along the haunch area of the pipe, which can create a slight restriction or blockage. Large fins in man-entry pipes should be reduced to eliminate this possibility.

Hydraulic Performance:

The existing brick sewer is usually hydraulically modeled using a Manning roughness coefficient in the range of 0.012 (too low for deteriorated wall) to 0.017 in bad condition. Typical design value for a brick sewer is 0.015 (*Wastewater Engineering: Collection, Treatment, Disposal by Metcalf & Eddy, Inc.).* Insituform has been field tested within deteriorated pipes and has been determined to exhibit a 0.009 when cleaned and a 0.010 with debris within the sewer. Small fins within a medium or large diameter CIPP have a small negative impact upon the flow surface. When evaluating the flow capability of the pipe, the small imperfections do not greatly disturb the flow lines of the sewage and the degree of induced turbulence is rather limited. We do not anticipate the CIPP lined pipe to restrict the flow capacity relative to the host

brick sewer even with the remaining fins and/or folds/wrinkles within the pipe. Due to smooth surface of the Insituform pipe the flow capacity of these sewers will be capable of accommodating the flowrates of the host brick sewer. The submittal estimated the Manning coefficient for the CIPP lining to be 0.011 considering the rough brick surface under the lining and estimated a 21% flow enhancement. If a more conservative value for the Manning coefficient of 0.013 is used to accommodate the surface imperfections due to fins and wrinkles, a conservatively estimated flow of the CIPP provides a flowrate of approximately 102% of the original brick sewer at n=0.015 (brick in good condition) or 116% for a brick simulated by a Manning coefficient of 0.017 (brick in bad condition).

In review, the fins and/or folds/wrinkles within the CIPP are more of a cosmetic blemish or an aesthetics problem than a source to affect the pipe's performance. The fins that are rather small will not create structural problems, either in the short-term or the long-term performance of the CIPP. If the fins are too tall and require trimming, the remaining fin should be no closer to the wall than about a half of an inch and the exposed surface does not require a protective coating. The hydraulic capacity of the CIPP will be adequate to accommodate the flow rate of the brick sewer and should do so with a higher average velocity and reduced depth of flow, as referenced within the previous paragraph.

If you should have any questions concerning this letter, please contact me in our St. Louis office.

INSITUFORM TECHNOLOGIES, INC.

Respectfully,

Rick Baxter, P.E.
ITI Product Engineer.

CC: Area 1 file

Wrinkle Removal Procedure

Preparation & Setup:

1) Position and test all safety equipment and devices to control and monitor men working in the pipes.

2) Isolate or control any water that may impact the safe and efficient cutting of wrinkles.

3) Install a screen or dam at the downstream side of each manhole to ensure all debris and/or waste is recovered from the pipe system.

Cutting:

1) Roughly cut wrinkles and/or fins as noted in Enclosure 3 to within ½" to ¾" of the CIPP surface.

2) As the angle of approach for cuts may be awkward, smooth the cuts with a variety of tools and implements to obtain an evenly cut surface.

3) Retrieve all cut material as required.

Inspection:

1) Provide all debris and/waste material to the Resident Engineer for review prior to disposal.

2) Jet the pipe clear of all dust and dirt.

3) Provide CSE support to the Engineer/Owner for physical inspection of the inside of each pipe.

4) Provide and CCTV video of the pipe.

ENCLOSURE 2

EBBS - Wrinkle/Fin Removal List

Footage				
Start	Finish	Approximate Length	Clock Position	Comments
10+23 to 3+80				ITI tape dated 8/15/03
51	52.1	1.1	4:00 to 6:00	
98	118	20	5:00	
117	138	21	6:00 to 5:00	
136	144	8	6:00 to 5:00	
40+26 to 34+20				ITI tape dated 8/16/03
19	23	4	4:00 TO 5:00	
199	205	6	5:00	

Notes

1. All footages are read as jet nozzle marked location.

ENCLOSURE 3